



SEQUENCE LISTING

<110> MAXYGEN

<120> PEPTIDE EXTENDED GLYCOSYLATED POLYPEPTIDES

<130> 0217us210

<140> US 09/896,896

<141> 2001-06-29

<150> US 60/217,497

<151> 2000-07-11

<150> US 60/225,558

<151> 2000-08-16

<150> DK PA 2000 01027

<151> 2000-06-30

<150> DK PA 2000 01092

<151> 2000-07-14

<150> PCT/DK00/00743

<151> 2000-12-29

<150> PCT/DK01/00090

<151> 2001-02-09

<160> 123

<170> PatentIn Ver. 2.1

<210> 1

<211> 497

<212> PRT

<213> Homo sapiens

<220>

<221> MOD_RES

<222> (495)

<223> R or H

<400> 1

Ala Arg Pro Cys Ile Pro Lys Ser Phe Gly Tyr Ser Ser Val Val Cys
1 5 10 15

Val Cys Asn Ala Thr Tyr Cys Asp Ser Phe Asp Pro Pro Thr Phe Pro
20 25 30

Ala Leu Gly Thr Phe Ser Arg Tyr Glu Ser Thr Arg Ser Gly Arg Arg
35 40 45

Met Glu Leu Ser Met Gly Pro Ile Gln Ala Asn His Thr Gly Thr Gly
50 55 60

Leu Leu Leu Thr Leu Gln Pro Glu Gln Lys Phe Gln Lys Val Lys Gly

RECEIVED

MAY 20 2002

TECH CENTER 1603/2300

65	70	75	80
Phe Gly Gly Ala Met Thr Asp Ala Ala Ala Leu Asn Ile Leu Ala Leu	85	90	95
Ser Pro Pro Ala Gln Asn Leu Leu Leu Lys Ser Tyr Phe Ser Glu Glu	100	105	110
Gly Ile Gly Tyr Asn Ile Ile Arg Val Pro Met Ala Ser Cys Asp Phe	115	120	125
Ser Ile Arg Thr Tyr Thr Tyr Ala Asp Thr Pro Asp Asp Phe Gln Leu	130	135	140
His Asn Phe Ser Leu Pro Glu Glu Asp Thr Lys Leu Lys Ile Pro Leu	145	150	155
Ile His Arg Ala Leu Gln Leu Ala Gln Arg Pro Val Ser Leu Leu Ala	165	170	175
Ser Pro Trp Thr Ser Pro Thr Trp Leu Lys Thr Asn Gly Ala Val Asn	180	185	190
Gly Lys Gly Ser Leu Lys Gly Gln Pro Gly Asp Ile Tyr His Gln Thr	195	200	205
Trp Ala Arg Tyr Phe Val Lys Phe Leu Asp Ala Tyr Ala Glu His Lys	210	215	220
Leu Gln Phe Trp Ala Val Thr Ala Glu Asn Glu Pro Ser Ala Gly Leu	225	230	235
Leu Ser Gly Tyr Pro Phe Gln Cys Leu Gly Phe Thr Pro Glu His Gln	245	250	255
Arg Asp Phe Ile Ala Arg Asp Leu Gly Pro Thr Leu Ala Asn Ser Thr	260	265	270
His His Asn Val Arg Leu Leu Met Leu Asp Asp Gln Arg Leu Leu Leu	275	280	285
Pro His Trp Ala Lys Val Val Leu Thr Asp Pro Glu Ala Ala Lys Tyr	290	295	300
Val His Gly Ile Ala Val His Trp Tyr Leu Asp Phe Leu Ala Pro Ala	305	310	315
Lys Ala Thr Leu Gly Glu Thr His Arg Leu Phe Pro Asn Thr Met Leu	325	330	335
Phe Ala Ser Glu Ala Cys Val Gly Ser Lys Phe Trp Glu Gln Ser Val	340	345	350
Arg Leu Gly Ser Trp Asp Arg Gly Met Gln Tyr Ser His Ser Ile Ile	355	360	365
Thr Asn Leu Leu Tyr His Val Val Gly Trp Thr Asp Trp Asn Leu Ala			

370 375 380

Leu Asn Pro Glu Gly Gly Pro Asn Trp Val Arg Asn Phe Val Asp Ser
385 390 395 400

Pro Ile Ile Val Asp Ile Thr Lys Asp Thr Phe Tyr Lys Gln Pro Met
405 410 415

Phe Tyr His Leu Gly His Phe Ser Lys Phe Ile Pro Glu Gly Ser Gln
420 425 430

Arg Val Gly Leu Val Ala Ser Gln Lys Asn Asp Leu Asp Ala Val Ala
435 440 445

Leu Met His Pro Asp Gly Ser Ala Val Val Val Val Leu Asn Arg Ser
450 455 460

Ser Lys Asp Val Pro Leu Thr Ile Lys Asp Pro Ala Val Gly Phe Leu
465 470 475 480

Glu Thr Ile Ser Pro Gly Tyr Ser Ile His Thr Tyr Leu Trp Xaa Arg
485 490 495

Gln

<210> 2
<211> 1551
<212> DNA
<213> Homo sapiens

<400> 2

atggctggcag gcctcacagg attgcttcta cttcaggcag tgtcgtgggc atcaggtgcc 60
cgccccctgca tccctaaaag cttcgggtac agctcgggtg tgtgtgtctg caatgccaca 120
tactgtgact cctttgaccc cccgaccttt cctgccttg gtaccttcag ccgctatgag 180
agtacacgca gtggggcgac gatggagctg agtatggggc ccatccaggc taatcacacg 240
ggcacaggcc tgctactgac cctgcagcca gaacagaagt tccagaaagt gaagggtatt 300
ggagggggcca tgacagatgc tgetgctctc aacatccttg cctgtccacc cctgcccaa 360
aatttgcctac ttaaatcgta cttctctgaa gaaggaatcg gatataacat catccgggta 420
cccattggcca gctgtgactt ctccatccgc acctacacct atgcagacac cctgatgat 480
ttcagttgac acaacttcag cctcccagag gaagatacca agctcaagat acccctgatt 540
caccgagcac tgcagttggc ccagcgtccc gtttcactcc ttgccagccc ctggacatca 600
cccacttggc tcaagaccaa tggagcgggt aatgggaagg ggtcactcaa gggacagccc 660
ggagacatct accaccagac ctgggccaga tactttgtga agttcctgga tgccatgatc 720
gagcacaagt tacagttctg ggcagtgaca gctgaaaatg agcctctgc tggcgtgttg 780
agtggaatacc ccttcagtg cctgggcttc acccctgaac atcagcgaga cttaattgcc 840
cgtgacctag gtccctacct cgcccaacagt actcaccaca atgtccgcct actcatgct 900
gatgaccaac tcttctgctg gcccactgg gcaaagggtg tgctgacaga cccagaagca 960
gctaaatatg ttcatggcat tgetgtacat tggtaacctg accttctggc tccagccaaa 1020
gccaccttag gggagacaca ccgctgttc cccaacacca tgctctttgc ctcagaggcc 1080
tgtgtgggct ccaagttctg ggcagcagagt gtgcgggtag gctcctggga tcgagggatg 1140
cagtacagcc acagatcat caggaacctc ctgtaccatg tggctgggct gaccagatg 1200
aaccttgccc tgaaccccca aggaggacct aattgggtgc gtaactttgt cgacagtc 1260
atcattgtag acatcaccaa ggacacgttt tacaacacgc ccatgtttct ccaacttgcc 1320
catttcagca agttcattcc tgagggtccc cagagagtgg ggctggttgc cagtcagaag 1380
aacgacctgg accagctggc attgatgat cccgatggct ctgctgttgt ggtcgtgcta 1440
aaccgctcct ctaaggatgt gcctcttacc atcaaggatc ctgctgtggg cttcctggag 1500

acaatctcac ctggctactc cattcacacc tacctgtggc gtcgccagt a

1551

<210> 3
 <211> 6186
 <212> DNA
 <213> Artificial sequence

<220>
 <221> exon
 <222> (1225)..(1572)
 <223> Coding sequence for human FSH-alpha

<400> 3
 gacggatcgg gagatctccc gatccctat ggtcgactct cagtacaatc tgcctctgatg 60
 ccgcatagtt aagccagtat ctgctccctg cttgtgtgtt ggaggtcgct gagtagtgcg 120
 cgagcaaaat ttaagtaca acaaggcaag gcttgacoga caattgcatt aagaatctgc 180
 ttagggttag gcgttttgcg ctgcttcgag atgtacgggc cagatatacg cgttgacatt 240
 gattattgac tagttattaa tagtaataca ttacgggggc attagtcat agccccatata 300
 tggagttccg cggttacataa cttacggtaa atggcccgcg tggctgacgc cccaacgacc 360
 cccgccatt gagctcaata atgacgtatg ttcccatagt aacgccaata gggactttcc 420
 attgacgtca atgggtggag tattttacgg aaactgccca cttggcagta catcaagtgt 480
 atcatatgcc aagtacgccc cctattgacg tcaatgacgg taaatggccc gcctggcatt 540
 atgcccagta catgacctta tgggactttc ctacttggca gtacatctac gtattagtca 600
 tcgctattac catggtgatg cggttttggc agtacatcaa tgggcgtgga tagcggtttg 660
 actcacgggg atttccaagt ctccacccca ttgacgtcaa tgggagtttg ttttggcacc 720
 aaaaacaacg ggactttcca aaatgtcgta acaactccgc ccattgacg caaatgggag 780
 gtaggcgtgt acggtgggag gtctatataa gcagagctct ctggctaact agagaaccca 840
 ctgcttactg gcttatcgaa attaatacga ctcaatagc ggagacccaa gctggctagc 900
 ttattgcgtg agtttatcac agttaaattg ctaacgcagt cagtgtcttc gacacaacag 960
 tctgaagact aagctgcagt gactctctta aggtagcctt gcagaagttg gtcgtgaggc 1020
 actgggcagg taagtatcaa gggtacaaga caggtttaag gagaccaata gaaactgggc 1080
 ttgtcgagac agagaagact cttgcgttcc tgataggcac ctattggtct tactgacatc 1140
 cactttgcct ttctctccac aggtgtccac tcccagttca attacagctc ttaaaagcct 1200
 ggtaccgagc tcggatccgc cacc atg gac tac tac cgc aag tac gcc gcc 1251
 Met Asp Tyr Tyr Arg Lys Tyr Ala Ala
 1 5

atc ttc ctg gtg acc ctg agc gtg ttc ctg cac gtg ctg cac agc gcc Ile Phe Leu Val Thr Leu Ser Val Phe Leu His Val Leu His Ser Ala 10 15 20 25	1299
ccc gac gtg cag gac tgc ccc gag tgc acc ctg cag gag aac ccc ttc Pro Asp Val Gln Asp Cys Pro Glu Cys Thr Leu Gln Glu Asn Pro Phe 30 35 40	1347
ttc agc cag ccc ggc gcc ccc atc ctg cag tgc atg ggc tgc tgc ttc Phe Ser Gln Pro Gly Ala Pro Ile Leu Gln Cys Met Gly Cys Cys Phe 45 50 55	1395
agc cgc gcc tac ccc acc ccc ctg cgc agc aag aag acc atg ctg gtg Ser Arg Ala Tyr Pro Thr Pro Leu Arg Ser Lys Thr Met Leu Val 60 65 70	1443
cag aag aac gtg acc agc gag agc acc tgc tgc gtg gcc aag agc tac Gln Lys Asn Val Thr Ser Glu Ser Thr Cys Cys Val Ala Lys Ser Tyr 75 80 85	1491
aac cgc gtg acc gtg atg ggc ggc ttc aag gtg gag aac cac acc gcc Asn Arg Val Thr Val Met Gly Gly Phe Lys Val Glu Asn His Thr Ala 90 95 100 105	1539
tgc cac tgc agc acc tgc tac tac cac aag agc taatctagag ggcccgttta Cys His Cys Ser Thr Cys Tyr Tyr His Lys Ser 110 115	1592
aaccgcgtga tcagcctcga ctgtgccttc tagttgccag ccattctgttg tttgcccttc	1652
cccgtgcct tccttgacc ccggaagggtgc cactccact gtcctttcct aataaaatga	1712
ggaaattgca tcgcattgtc tgagtaggtg tcattctatt ctgggggggtg ggggtgggca	1772
ggacagcaag ggggaggatt gggaagacaa tagcaggcat gctgggggatg cgggtgggctc	1832
tatggcttct gaggcggaaa gaaccagctg gggtcttagg ggggtatcccc acgcgccctg	1892
tagcggcgca ttaagcgcgg cggtgtggtt ggttacgcgc agcgtgacgc ctacacttgc	1952
cagcgcctta gcgcgcgctc ctttcgcttt cttcccttcc tttctcgcca cgttcgcgg	2012
ctttccccgt caagctctaa atcggggcat ccctttaggg ttccgattta gtgctttacg	2072
gcacctcgac cccaaaaaac ttgattaggg tgatggttca cgtagtgggc catcgccctg	2132
atagacgggt tttcgccctt tgacgttgga gtccacgttc tttaatagtg gactcttggt	2192
ccaaactgga acaactatca accctatctc ggtctattct tttgatttat aagggatttt	2252
ggggatttgc gcctattggt taaaaaatga gctgatttaa caaaaattta acgcaattta	2312
attctgtgga atgtgtgtca gttagggtgt ggaaagtccc caggctcccc aggcaggcag	2372
aagtatgcaa agcatgcac tcgaattagtc agcaaccagg tgtggaaagt cccagggctc	2432

cccagcaggc agaagtatgc aaagcatgca tctcaattag tcagcaacca tagtcccgcc 2492
 cctaactccg cccatcccg cctaactcc gccagttcc gccattctc cgcccatagg 2552
 ctgactaatt ttttttattt atgcagaggc caggccgcc tctgcctctg agctattcca 2612
 gaagtagtga ggaggctttt ttggaggcct aggccttttc aaaaagctcc cgggagcttg 2672
 tatatccatt ttccgatctg atcagcacgt gatgaaaaag cctgaactca ccgcgacgtc 2732
 tgtcgagaag tttctgatcg aaaagttcga cagcgtctcc gacctgatgc agctctcgga 2792
 gggcgagaag tctcgtcctt tcagcttcga tgtaggaggc cgtggatatg tctcgggggt 2852
 aaatagctgc gcgatgggt tctacaaaga tcgttatgtt tatcgccact ttgcatcggc 2912
 cgcgctcccg attccggaag tgcctgacat tggggaatc agcgagagcc tgacctattg 2972
 catctcccg cgtgcacagg gtgtcacgtt gcaagacctg cctgaaaccg aactgccgc 3032
 tgttctcgag ccggtcgcgg aggccatgga tgcgatcgtc gggccgac ttagccagac 3092
 gagcgggttc gggccattcg gaccgcaagg aatcggtaa tacactacat ggcgtgattt 3152
 catatgcgcg attgctgac cccatgtgta tcaactggca actgtgatgg acgacacctg 3212
 cagtgcgtcc gtgcgcagg ctctcgatga gctgatgctt tgggcgcagg actgcccga 3272
 agtcggcac ctctgtcacg cggatttcgg ctccaacaat gtcctgacgg acaatggccg 3332
 cataacacgc gtcattgact ggagcagagg gatgttcggg gattcccaat acgaggtcgc 3392
 caacatcttc ttctggaggc cgtggttggc ttgtatggag cagcagacgc gctacttcga 3452
 gcggaggcat ccggagcttg caggatccc gcggetccgg gcgtatatgc tccgattgg 3512
 tcttgaccac ctctatcaga gcttgggtga cggcaatttc gatgatgcag cttgggcgca 3572
 gggtcgatgc gacgcaatcg tccgatccgg agccgggact gtcgggcgta cacaatcgc 3632
 ccgcagaagc gcggcgtct ggaccgatgg ctgtgtagaa gtactcgcg atagtggaag 3692
 ccgacgcccc agcactcgtc cgagggcaaa ggaatagcac gtgctacgag atttcgattc 3752
 caccgcgcgc ttctatgaaa ggttgggctt cggaatcgtt ttccgggacg ccggctggat 3812
 gatcctccag ccgggggac tcatgctgga gttcttcgcc caccacaact tgtttattgc 3872
 agcttataat ggttacaaat aaagcaatag catcacaaat ttcacaaata aagcattttt 3932
 ttcactgcac tctagtgtg gtttgtccaa actcatcaat gtatcttata atgtctgtat 3992
 accgtcgacc tctagctaga gcttggcgta atcatggta tagctgttct ctgtgtgaaa 4052
 ttgttatccg ctcaaatc cacacaacat acgagccgga agcataaagt gtaaacctg 4112
 gggtcgctaa tgagtgaagt aactcacatt aattgcgttg cgctcactgc ccgctttcca 4172

gtcgggaaac	ctgtcgtgcc	agctgcatta	atgaatcggc	caacgcgcgg	ggagaggcgg	4232
tttcggtatt	gggcgctctt	ccgcttcttc	gtcactgac	tcgctgcgct	cggctggtcg	4292
gctgcggcga	gcggtatcag	ctcactcaaa	ggcggtaata	cggttatcca	cagaatcagg	4352
ggataacgca	ggaaagaaca	tgtgagcaaa	aggccagcaa	aaggccagga	accgtaaaaa	4412
ggccgcgttg	ctggcggttt	tccataggct	ccgccccctc	gacgagcatc	acaaaaatcg	4472
acgctcaagt	cagagggtgc	gaaacccgac	aggactataa	agataaccagg	cgtttccccc	4532
tggaagctcc	ctcgtgcgct	ctcctgttcc	gaccctgccg	cttaccggat	acctgtccgc	4592
ctttctcctt	tcgggaagcg	tggcgctttc	tcaatgctca	cgctgtaggt	atctcagttc	4652
gggtgtaggtc	gttcgctcca	agctgggctg	tgtgcacgaa	ccccccgttc	agccccgaccg	4712
ctgcgcctta	tccggttaact	atcgtcttga	gtccaaccgc	gtaagacacg	acttatcgcc	4772
actggcgaca	gccactggta	acaggattag	cagagcgagg	tatgtaggcg	gtgctacaga	4832
gttcttgaag	tggtggccta	actacggcta	cactagaagg	acagtatttg	gtatctgcgc	4892
tctgctgaag	ccagttacct	tcggaaaaag	agttggtagc	tcttgatccg	gcaaaaaaac	4952
cacgcgtggt	agcggctggt	tttttgttg	caagcagcag	attacgcgca	gaaaaaaagg	5012
atctcaagaa	gatcctttga	tcttttctac	ggggtctgac	gctcagtgga	acgaaaactc	5072
acgttaaggg	attttggtea	tgagattatc	aaaaaggatc	ttcacctaga	tccttttaaa	5132
ttaaaaaatga	agtttttaaat	caatctaaag	tatatatgag	taaacttggt	ctgacagtta	5192
ccaatgctta	atcagtgagg	cacotatctc	agcgatctgt	ctatttcgtt	catccatagt	5252
tgctgactc	ccgctcgtgt	agataactac	gatacgggag	ggcttaccat	ctggccccag	5312
tgctgcaatg	ataccgcgag	accacgcctc	accggctcca	gatttatcag	caataaacca	5372
gccagcgga	agggccgagc	gcagaagtgg	tcctgcaact	ttatccgcct	ccatccagtc	5432
tattaattgt	tgccgggaag	ctagagtaag	tagttcgcca	gttaaatagt	tgccgaacgt	5492
tggtgccatt	gctacaggca	tcgtggtgtc	acgctcgtcg	tttggtatgg	cttcattcag	5552
ctccggttcc	caacgatcaa	ggcgagttac	atgatccccc	atgttgtgca	aaaaagcggt	5612
tagctccttc	ggtcctccga	tcgttgtcag	aagtaagttg	gccgcagtg	tatcactcat	5672
ggttatggca	gcactgcata	attctcttac	tgtcatgcc	tccgtaagat	gcttttctgt	5732
gactggtgag	tactcaacca	agtcattctg	agaatagtgt	atgcggcgac	cgagttgctc	5792
ttgcccgcg	tcaatacggg	ataataccgc	gccacatagc	agaactttaa	aagtgtctat	5852

cattgaaaa cgttcttcgg ggcgaaaact ctcaaggatc ttaccgctgt tgagatccag 5912
 ttctgatgtaa cccactcgtg caccacaactg atcttcagca tcttttactt tcaccagcgt 5972
 ttctgggtga gcaaaaaacag gaaggcaaaa tgccgcaaaa aagggaataa gggcgacacg 6032
 gaaatgttga atactcatac tcttcctttt tcaatattat tgaagcattt atcaggggta 6092
 ttgtctcatg agcggatata tatttgaatg tatttagaaa aataaacaaa taggggttcc 6152
 gcgcacattt ccccgaaaaa tgccacctga cgtc 6186

<210> 4
 <211> 5651
 <212> DNA
 <213> Artificial sequence

<220>
 <221> exon
 <222> (1231)..(1617)
 <223> Coding sequence for human FSH-beta

<400> 4
 gacggatcgg gagatctccc gatccctat ggtcgactct cagtacaatc tgctctgatg 60
 ccgcatagtt aagccagtat ctgctccctg cttgtgtggt ggaggctcgt gagtagtgcg 120
 cgagcaaaat ttaagctaca acaaggcaag gcttgaccga caattgcatg aagaatctgc 180
 ttagggttag gcgttttgcg ctgcttcgcg atgtacgggc cagatatacg cgttgacatt 240
 gattattgac tagttattaa tagtaataca ttacggggtc attagttcat agcccatata 300
 tggagttccg cgttacataa cttacggtaa atggcccgcc tggctgaccg cccaacgacc 360
 cccgccatt gacgtcaata atgacgtatg ttcccatagt aacgccaata gggactttcc 420
 attgacgtca atgggtggac tatttacggt aaactgcccc cttggcagta catcaagtgt 480
 atcatatgcc aagtacgccc cctattgacg tcaatgacgg taaatggccc gcctggcatt 540
 atgcccagta catgacctta tgggactttc ctacttgga gtacatctac gtattagtca 600
 tgcgtattac catggtgatg cggttttggc agtacatcaa tgggcgtgga tagcggtttg 660
 actcacgggg atttccaagt ctccacccca ttgacgtcaa tgggagtttg ttttggcacc 720
 aaaatcaacg ggactttcca aaatgtcgta acaactcgc cccattgacg caaatgggcg 780
 gtaggcgtgt acgggtggag gtctatataa gcagagctct ctggctaact agagaaccca 840
 ctgcttactg gcttatcgaa attaatcga ctactatag ggagacccaa gctggctagc 900
 ttattgcggt agtttatcac agttaaatg ctaacgcagt cagtgtctct gacacaacag 960
 tctcgaaact aagctgcagt gactctctta aggtagcctt gcagaagttg gtcgtgaggg 1020

actgggcagg taagtatcaa ggttacaaga caggtttaag gagaccaata gaaactgggc	1080
ttgtcgagac agagaagact ctgtcggttc tgataggcac ctattggtct tactgacatc	1140
cactttgcct ttctctccac aggtgtccac tcccagttca attacagctc ttaaaagcct	1200
ggtaccgagc tcggatctat cgatgccacc atg gag acc ctg cag ttc ttc ttc Met Glu Thr Leu Gln Phe Phe Phe 1 5	1254
ctg ttc tgc tgc tgg aag gcc atc tgc tgc aac agc tgc gag ctg acc Leu Phe Cys Cys Trp Lys Ala Ile Cys Cys Asn Ser Cys Glu Leu Thr 10 15 20	1302
aac atc acc atc gcc atc gag aag gag gag tgc cgc ttc tgc atc agc Asn Ile Thr Ile Ala Ile Glu Lys Glu Glu Cys Arg Phe Cys Ile Ser 25 30 35 40	1350
atc aac acc acc tgg tgc gcc gcc tac tgc tac acc cgc gac ctg gtg Ile Asn Thr Thr Trp Cys Ala Gly Tyr Cys Tyr Thr Arg Asp Leu Val 45 50 55	1398
tac aag gac ccc gcc cgc ccc aag atc cag aag acc tgc acc ttc aag Tyr Lys Asp Pro Ala Arg Pro Lys Ile Gln Lys Thr Cys Thr Phe Lys 60 65 70	1446
gag ctg gtg tac gag acg gtc cgg gtg ccc gcc tgc gcc cac cac gcc Glu Leu Val Tyr Glu Thr Val Arg Val Pro Gly Cys Ala His His Ala 75 80 85	1494
gac agc ctg tac acc tac ccc gtg gcc acc cag tgc cac tgc gcc aag Asp Ser Leu Tyr Thr Tyr Pro Val Ala Thr Gln Cys His Cys Gly Lys 90 95 100	1542
tgc gac agc gac agc acc gac tgc acc gtg cgc gcc ctg gcc ccc agc Cys Asp Ser Asp Ser Thr Asp Cys Thr Val Arg Gly Leu Gly Pro Ser 105 110 115 120	1590
tac tgc agc ttc gcc gag atg aag gag taactcgaga cttaggggcc Tyr Cys Ser Phe Gly Glu Met Lys Glu 125	1637
cgtttaaacc cgctgatcag cctcgactgt gccttctagt tgccagccat ctgtgtgttg	1697
cccctcccc gtgccttctc tgaccctgga aggtgccact cccactgtcc ttctctaata	1757
aaatgaggaa attgcacgc attgtctgag taggtgtcat tctattctgg ggggtggggt	1817
ggggcaggac agcaaggggg aggattggga agacaatagc aggcacgtctg gggatgcggt	1877
gggctctatg gcttctgagg cggaagaagc cagctggggc tctagggggg atccccacgc	1937
gccctgtagc ggcgcattaa gcgcggcggg tgtggtggtt acgcgcagcg tgaccgctac	1997
acttgccagc gccctagcgc ccgtctcttt cgctttcttc ccttctcttc tcgccacggt	2057

cgccggttt ccccgtaag ctctaatacg gggcatcct ttagggttcc gatttagtgc 2117
 ttacggcac ctcgacccca aaaaacttga ttaggggtgat gggtcacgta gtgggccate 2177
 gccctgatag acggtttttc gccctttgac gttggagtc acgttcttta atagtggact 2237
 cttgttccaa actggaacaa cactcaaccc tatctcggtc tattcttttg atttataagg 2297
 gattttgggg atttcggcct attggttaaa aaatgagctg atttaacaaa aatttaacgc 2357
 gaattaattc tgtggaatgt gtgtcagtta ggggtggaa agtccccagg ctccccaggc 2417
 aggcagaagt atgcaaaagca tgcattctaa ttagtcagca accaggtgtg gaaagtcccc 2477
 aggtcccca gcaggcagaa gtatgcaaa catgcatctc aattagttag caaccatagt 2537
 cccgcccta actccgcca tcccgccct aactccgcc agttccgcc attctcgcc 2597
 ccatggctga ctaattttt ttatttatgc agaggcgag gccgcctctg cctctgagct 2657
 attccagaag tagtgaggag gcttttttg aggcctaggc ttttgcaaaa agtccccggg 2717
 agcttgata tccattttcg gatctgatca gcacgtgttg acaattaatc atcggcatag 2777
 tatatcgga tagtataata gcacaagggt aggaactaaa ccatggccaa gttgaccagt 2837
 gccgttcgg tgctcacgc gcgcgacgtc gccggagcgg tcgagttctg gaccgacgg 2897
 ctgggttct cccgggactt cgtggaggac gacttcgccg gtgtggtccg ggaacacgtg 2957
 accctgttca tcagcgcgt ccaggaccag gtggtgccg acaacacct ggctgggtg 3017
 tgggtgcgc gcctggacga gctgtacgc gagtggtcgg aggtcgtgtc cagcaacttc 3077
 cgggacgcct ccgggccggc catgaccgag atcggcgagc agccgtgggg gcgggagttc 3137
 gccctgcgc acccgccgg caactgcgtg cacttcgtgg ccgaggagca ggaactgacac 3197
 gtgtacgag atttcgatt caccgccgc ttctatgaaa ggttgggctt cgggaatcgtt 3257
 ttccgggac ccggctggt gatctccag cgcggggatc tcattgtgga gttcttcgcc 3317
 caccceact tgtttattgc agcttataat ggttacaat aaagcaatag catcacaat 3377
 ttcacaata aagcattttt ttactgcat tctagttgtg gttgtccaa actcatcaat 3437
 gtattctate atgtctgat accgtcgacc tctagctaga gcttggcgta atcatggtca 3497
 tagctgttc ctgtgtgaaa ttgttatcc ctcacaattc cacacaacat acgagccgga 3557
 agcataaagt gtaaagcctg ggggcctaa tgagtgaact aactcacatt aattgcgttg 3617
 cgctcaactgc ccgctttcca gtccggaaac ctgtcgtgcc agctgcatta atgaatcggc 3677
 caacgcgcgg ggagaggcgg tttgcgtatt gggcgctctt ccgcttcttc gctcaactgac 3737
 tcgtgcgct cggtcgttcg gctcggcgga gcggtatcag ctcaactcaa ggcggttaata 3797

cggttatcca cagaatcagg ggataacgca ggaaagaaca tgtgagcaaa aggccagcaa 3857
 aaggccagga accgtaaaaa ggccgcgttg ctggcggttt tccataggct cgcggccct 3917
 gacgagcatc acaaaaaatcg acgctcaagt cagagggtggc gaaacccgac aggactataa 3977
 agataccagg cgtttccccc tggaaagctcc ctctgtcgct ctctgttcc gaccctgccg 4037
 cttaccggat acctgtccgc ctttctccct tcgggaagcg tggcgcttc tcaatgctca 4097
 cgctgtaggt atctcagttc ggtgtaggtc gttcgctcca agctgggctg tgtgcacgaa 4157
 cccccgttc agccccagcc ctgcgcctta tccgtaact atcgtcttga gtccaacccg 4217
 gtaagacacg acttatcgcc actggcagca gccactggta acaggattag cagacgagg 4277
 tatgtaggcg gtgctacaga gttcttgaag tggtagccta actacggcta cactagaagg 4337
 acagtatttg gtatctgcgc tctgctgaag ccagttacct tcggaaaaag agttggtagc 4397
 tcttgatccg gcaaaaaac caccgctggt agcgggtggt tttttgttg caagcagcag 4457
 attacgcca gaaaaaagg atctcaagaa gatccttga tctttctac ggggtctgac 4517
 gctcagtggg acgaaaactc acgttaaggg attttggtca tgagattatc aaaaaggatc 4577
 ttacactaga tccttttaaa ttaaaaatga agttttaaat caatctaaag tatatatgag 4637
 taaacttggt ctgacagtta ccaatgctta atcagtgagg cactatctc agcgtatctg 4697
 ctatttcgt catccatagt tgcctgactc cccgtcgtgt agataactac gatacgggag 4757
 gggttaccat ctggccccag tgctgcaatg ataccgcgag acccacgctc accggctcca 4817
 gatttatcag caataaacca gccagccgga agggccgagc gcagaagtgg tctgcaact 4877
 ttatccgct ccatccagtc tattaattgt tgcgggaag ctagagtaag tagttcgcca 4937
 gttaatagtt tgcgcaacgt tgttgccatt gctacaggca tcgtggtgtc acgctcgctg 4997
 tttggtatgg ctctattcag ctccggttcc caacgatcaa ggcgagttac atgatcccc 5057
 atgttgtgca aaaaagcgt tagctcctc ggtcctccga tcgttgtcag aagtaagttg 5117
 gccgcagtg tatcactcat ggttatggca gcactgcata attctctac tgcctagcca 5177
 tcogtaagat gctttctgt gactggtgag tactcaacca agtcattctg agaatagtg 5237
 atgcggcgac cgagttgctc ttgccggcg tcaatacggg ataataccgc gccacatagc 5297
 agaactttaa aagtgtctat cattggaaaa cgttcttcgg ggcgaaaact ctcaaggatc 5357
 ttaccgctgt tgagatccag ttcatgtaa cccactcgtg cacccaactg atcttcagca 5417
 tcttttactt tcaccagcgt ttctgggtga gcaaaaacag gaaggcaaaa tgccgcaaaa 5477
 aagggaataa gggcgacacg gaaatgtga atactcatac tcttctttt tcaattatat 5537

tgaagcattt atcagggtta ttgtctcatg agcggataca tatttgaatg tatttagaaa 5597
aataaacaata taggggttcc gcgcacattt ccccgaaaag tgccacctga cgtc 5651

<210> 5
<211> 92
<212> PRT
<213> Homo sapiens

<400> 5

Ala Pro Asp Val Gln Asp Cys Pro Glu Cys Thr Leu Gln Glu Asn Pro
1 5 10 15
Phe Phe Ser Gln Pro Gly Ala Pro Ile Leu Gln Cys Met Gly Cys Cys
20 25 30
Phe Ser Arg Ala Tyr Pro Thr Pro Leu Arg Ser Lys Lys Thr Met Leu
35 40 45
Val Gln Lys Asn Val Thr Ser Glu Ser Thr Cys Val Ala Lys Ser
50 55 60
Tyr Asn Arg Val Thr Val Met Gly Gly Phe Lys Val Glu Asn His Thr
65 70 75 80
Ala Cys His Cys Ser Thr Cys Tyr Tyr His Lys Ser
85 90

<210> 6
<211> 111
<212> PRT
<213> Homo sapiens

<400> 6

Asn Ser Cys Glu Leu Thr Asn Ile Thr Ile Ala Ile Glu Lys Glu Glu
1 5 10 15
Cys Arg Phe Cys Ile Ser Ile Asn Thr Thr Trp Cys Ala Gly Tyr Cys
20 25 30
Tyr Thr Arg Asp Leu Val Tyr Lys Asp Pro Ala Arg Pro Lys Ile Gln
35 40 45
Lys Thr Cys Thr Phe Lys Glu Leu Val Tyr Glu Thr Val Arg Val Pro
50 55 60
Gly Cys Ala His His Ala Asp Ser Leu Tyr Thr Tyr Pro Val Ala Thr
65 70 75 80
Gln Cys His Cys Gly Lys Cys Asp Ser Asp Ser Thr Asp Cys Thr Val
85 90 95

Arg Gly Leu Gly Pro Ser Tyr Cys Ser Phe Gly Glu Met Lys Glu
 100 105 110

<210> 7
 <211> 6213
 <212> DNA
 <213> Artificial sequence

<220>
 <221> exon
 <222> (1225)..(1599)
 <223> Coding sequence for modified FSH-alpha

<400> 7
 gacggatcgg gagatctccc gatccccctat ggtcgactct cagtacaatc tgctctgatg 60
 ccgcatagt aagccagtat ctgctccctg cttgtgtgtt ggaggctcgt gagtagtgcg 120
 cgagcaaaat ttaagctaca acaaggcaag gcttgaccga caattgcatg aagaatctgc 180
 ttagggttag gcggttttgc ctgcttcgcg atgtacgggc cagatatacg cgttgacatt 240
 gattattgac tagttattaa tagtaataca ttacgggggc attagttcat agcccatata 300
 tggagtccg cggtacataa cttacggtaa atggcccgcc tggctgacgc cccaacgacc 360
 cccgcccat gagctcaata atgacgtatg ttcccatagt aacgccaata gggactttcc 420
 attgacgtca atgggtggac tatttacggt aaactgccca cttggcagta catcaagtgt 480
 atcatatgcc aagtagcccc cctattgacg tcaatgacgg taaatggccc gcctggcatt 540
 atgccagta catgacctta tgggactttc ctacttgga gtacatctac gtattagtca 600
 tcgctattac catggtgatg cggttttggc agtacatcaa tgggcgtgga tagcggtttg 660
 actcacgggg atttccaagt ctccacccca ttgacgtcaa tgggagttag ttttggcacc 720
 aaaatcaacg ggactttcca aaatgtcgta acaactcgc ccattgacg caaatgggag 780
 gtaggcgtgt acggtgggag gtctatataa gcagagctct ctggctaact agagaaccca 840
 ctgcttactg gcttatcgaa attaatcaga ctcaettag ggagacccaa gctggctagc 900
 ttattcgggt agtttatcac agttaaatg ctaacgcagt cagtgtctct gacacaacag 960
 tctogaactt aagctgcagt gactctctta aggtagcctt gcagaagttg gtcgtgaggc 1020
 actgggcagg taagatcaaa ggttacaaga cagggttaag gagaccaata gaaactgggc 1080
 ttgtcgagac agagaagact cttgcgtttc tgataggcac ctattggtct tactgacatc 1140
 cactttgctt ttctctccac aggtgtccac tccagttca attacagctc ttaaaagctt 1200
 ggtaccgagc tcggatccgc cacc atg gac tac tac cgc aag tac gcc gcc 1251
 Met Asp Tyr Tyr Arg Lys Tyr Ala Ala

atc ttc ctg gtg acc ctg agc gtg ttc ctg cac gtg ctg cac agc gcc 1299
 ile phe leu val thr leu ser val phe leu his val leu his ser ala
 10 15 20 25
 aac atc acc gtt aac atc acc gtg gcc ccc gac gtg cag gac tgc ccc 1347
 asn ile thr val asn ile thr val ala pro asp val gln asp cys pro
 30 35 40
 gag tgc acc ctg cag gag aac ccc ttc ttc agc cag ccc ggc gcc ccc 1395
 glu cys thr leu gln glu asn pro phe ser gln pro gly ala pro
 45 50 55
 atc ctg cag tgc atg ggc tgc tgc ttc agc cgc gcc tac ccc acc ccc 1443
 ile leu gln cys met gly cys cys phe ser arg ala tyr pro thr pro
 60 65 70
 ctg cgc agc aag aag acc atg ctg gtg cag aag aac gtg acc agc gag 1491
 leu arg ser lys lys thr met leu val gln lys asn val thr ser glu
 75 80 85
 agc acc tgc tgc gtg gcc aag agc tac aac cgc gtg acc gtg atg ggc 1539
 ser thr cys cys val ala lys ser tyr asn arg val thr val met gly
 90 95 100 105
 ggc ttc aag gtg gag aac cac acc gcc tgc cac tgc agc acc tgc tac 1587
 gly phe lys val glu asn his thr ala cys his cys ser thr cys tyr
 110 115 120
 tac cac aag agc taatctagag ggcccgttta aacccgctga tcagcctcga 1639
 tyr his lys ser
 125
 ctgtgccttc tagttgccag ccactctgttg ttgtcccttc ccccgctgcct tccttgacc 1699
 tggaaggtgc cactcccaact gtcccttctct aataaaatga ggaattgca tcgcattgtc 1759
 tgagtaggtg tcattctatt ctgggggggtg ggggtggggca ggacagcaag ggggaggatt 1819
 gggaagacaa tagcaggcat gctgggggatg cggtggggtc tatggcttct gaggcggaaa 1879
 gaaccagctg gggctctagg ggggtatcccc acgcgccctg tagcgcgca ttaagcgcgg 1939
 cgggtgtgtg ggttacgcgc agcgtgaccg ctacacttgc cagcgcccta gcgccgcctc 1999
 ctttgccttt cttcccttcc ttcttcgcga cgttcgccgg ctttccccgt caagctctaa 2059
 atcggggcat ccctttagg ttccgattta gtgctttacg gcacctcgac cccaaaaaac 2119
 ttgattaggg tgatggttca cgtagtggc catcgccctg atagacggtt ttctgccctt 2179
 tgacgttgga gtccacgttc tttaatagtg gactcttggt ccaaaactgga acaacactca 2239
 accctatctc ggtctattct ttgtatttat aagggatttt ggggatttgc gcctattggt 2299
 taaaaaatga gctgatttaa caaaaattta acgcgaatta attctgtgga atgtgtgtca 2359

gttaggggtgt ggaaggtccc caggctcccc aggcaggcag aagtatgcaa agcatgcato	2419
tcaattagtc agcaaccagg tgtggaaagt cccaggctc cccaggcaggc agaagtagtc	2479
aaagcatgca tctcaattag tcagcaacca tagtcccgcc cctaactccg cccatccccg	2539
ccctaactcc gccaggtcc gccattctc cgcgccatgg ctgactaatt ttttttattt	2599
atgcagaggc cgaggccgccc tctgcctctg agctattcca gaagtagtga ggaggctttt	2659
ttggaggcct aggcttttgc aaaaagctcc cgggagcttg tatatccatt ttccgatctg	2719
atcagcacgt gatgaaaaa cctgaactca cgcgcagctc tgcgagaag tttctgatcg	2779
aaaagttcga cagcgtctcc gacctgatgc agctctcgga gggcgaagaa tctcgtgctt	2839
tcagcttcga tgtaggaggc cgtggatatg tctcgcggtt aaatagctgc gccgatgggt	2899
tctacaaaga tcgttatggt tatcggcact ttgcatcgcc cgcgctcccg attccggaag	2959
tgtttgacat tggggaattc agcgagagcc tgacctattg catctcccg cgtgcacagg	3019
gtgtcacgtt gcaagacctg cctgaaaccg aactgcccgc tgtttcgag ccggtcgccg	3079
aggccatgga tgcatcgct gcggccgac ttagccagac gagcgggttc ggcaccattc	3139
gaccgcgaag aatcgtgcaa tacactacat ggcgtgatt catatgcgcg attgctgatc	3199
cccattgtga tcaatggcaa actgtgatgg acgacacagt cagtgcgtcc gtccgcgagg	3259
ctctcgatga gctgatgctt tgggcccagg actgccccga agtccggcac ctctgacacg	3319
cggatttcgg ctccaaacaat gtcctgacgg acaatggccg cataacagcg gtcattgact	3379
ggagcgaggc gatgttcggg gattcccaat acgaggctgc caacatcttc tcttgaggc	3439
cgtggttggc ttgtatggag cagcagacgc gctacttcga gcggaggcat ccggagcttg	3499
caggatcgcc gcggctccgg gcgtatatgc tccgatttg tcttgaccaa ctctatcaga	3559
gcttggttga cggcaatttc gatgatgcag cttgggcgca gggtcgatgc gacgcaatcg	3619
tccgatccgg agccgggact gtcgggcgta cacaatcgc ccgcagaagc gcggccgtct	3679
ggaccgatgg ctgtgtagaa gtactcgccg atagtggaaa ccgacgcccc agcaectcgtc	3739
cgagggcaaa ggaatagcac gtgctacgag atttcgatc caccgcccgc ttctatgaaa	3799
ggttggtgctt cggaatcggt ttccgggacg ccggctggat gatcctccag ccgggggac	3859
tcatgttgga gttcttcgcc caccccaact tgtttattgc agcttataat ggttacaaat	3919
aaagcaatag catcacaat ttcacaaata aagcattttt ttoactgcat tctagtgtg	3979
gtttgtccaa actcatcaat gtattctatc atgtctgtat accgtcgacc tctagctaga	4039
gcttgccgta atcatggta tagctgttcc ctgtgtgaaa ttgttatccg ctccacaattc	4099

cacacaacat acgagccgga agcataaagt gtaaagcctg gggcgccata tgaagtgaagc 4159
aactcacatt aattgcgttg cgctcactgc ccgctttcca gtcgggaacac ctgcgtgccc 4219
agctgcatta atgaatcgcg caacgcgcgg ggagaggcgg ttgctgtatt gggcgctctt 4279
ccgcttcttc gctcactgac tcgctgcgct cggctcgttc gctgcggcga gcggtatcac 4339
ctcactcaaa ggcggtaata cggttatcca cagaatcagg ggataacgca ggaaagaaca 4399
tgtgagcaaa aggcagcaaa aaggccagga accgtaaaaa ggccgcgttg ctggcggttt 4459
tccataggct ccgccccct gacgagcatc acaaaaatcg acgctcaagt cagaggtggc 4519
gaaaccgcac aggactataa agataaccagg cgtttcccc tggaagctcc ctgcgtgcgt 4579
ctcctgttcc gaccctgcg cttaccggat acctgtccgc ctttctccct tcgggaagcg 4639
tggcgcttcc tcaatgetca cgctgtaggt atctcagttc ggtgtaggtc gttcgtccca 4699
agctgggctg tgtgcacgaa cccccgttc agcccgaccg ctgcgcctta tccggtaact 4759
atcgtcttga gtccaacccg gtaagacagc acttatcgcc actggcagca gccactggta 4819
acaggattag cagagcgagg tatgtaggcg gtgctacaga gttcttgaag tggtagccta 4879
actacggcta cactagaagg acagtatttg gtatctgcgc tctgctgaag ccagttacct 4939
tcggaaaaag agttggtagc tcttgatccg gcaaacaaac caccgctggg agcggtggtt 4999
tttttgttg caagcagcag attacgcgca gaaaaaagg atctcaagaa gatcctttga 5059
tctttctac ggggtctgac gctcagtgga acgaaaactc acgttaaggg attttggta 5119
tgagattatc aaaaaggatc ttacccataa tcctttttaa ttaaaaatga agttttaaat 5179
caatctaaag tatatatgag taaacttggt ctgacagtta ccaatgctta atcagtgaag 5239
cacctatctc agcgatctgt ctatttcgtt catccatagt tgccctgactc cccgtcgtgt 5299
agataactac gatacgggag ggcttaccat ctggccccag tgctgcaatg ataccgcgag 5359
accacgcgc accggtccca gatttatcag caataaacca gccagccgga agggccgagc 5419
gcagaagtgg tcttgcaact ttatccgctt ccatccagtc tattaattgt tgccgggaag 5479
ctagagtaag tagttcgcca gttaatagtt tgcgcaacgt tggtgccatt gctacaggca 5539
tcgtggtgtc acgctcgtcg ttggtatgg cttcattcag ctccggttcc caacgatcaa 5599
ggcgagttac atgatcccc atgttggtgca aaaaagcggg tagctccttc ggtcctccga 5659
tcgttgctag aagtaagttg gcgcagtggt tatcactcat ggttatggca gcactgcata 5719
attctcttac tgtcatgcca tccgtaagat gcttttctgt gactggtgag tactcaacca 5779

agtcattctg agaatagtgt atgcggcgac cgagttgctc ttgcccgcg tcaatacggg 5839
 ataataccgc gccacatagc agaactttaa aagtgtcat cattggaaaa cgttcttcgg 5899
 ggogaaaact ctcaaggatc ttaccgctgt tgagatccag ttcgatgtaa cccactcgtg 5959
 caccacaactg atcttcagca tcttttactt tcaccagcgt ttctgggtga gcaaaaacag 6019
 gaaggcaaaa tgccgcaaaa aagggaataa gggcgacacg gaaatgtga atactcatac 6079
 ttttcttttt tcaatattat tgaagcattt atcaggggta ttgtctcatg agcggataca 6139
 tatttgaatg tatttagaaa aataaacaaa taggggttcc gcgcacattt ccccgaaaaa 6199
 tgccacctga cgtc 6213

<210> 8
 <211> 5
 <212> PRT
 <213> Artificial Sequence

<220>
 <223> Description of Artificial Sequence: Synthetic
 peptide

<220>
 <221> MOD_RES
 <222> (5)
 <223> T or S

<400> 8
 Ala Ser Asn Ile Xaa
 1 5

<210> 9
 <211> 6
 <212> PRT
 <213> Artificial Sequence

<220>
 <223> Description of Artificial Sequence: Synthetic
 peptide

<220>
 <221> MOD_RES
 <222> (6)
 <223> T or S

<400> 9
 Ser Pro Ile Asn Ala Xaa
 1 5

<210> 10

```

<211> 7
<212> PRT
<213> Artificial Sequence

<220>
<223> Description of Artificial Sequence: Synthetic
      peptide

<220>
<221> MOD_RES
<222> (7)
<223> T or S

<400> 10
Ala Ser Pro Ile Asn Ala Xaa
 1               5

<210> 11
<211> 11
<212> PRT
<213> Artificial Sequence

<220>
<223> Description of Artificial Sequence: Synthetic
      peptide

<220>
<221> MOD_RES
<222> (4)
<223> T or S

<220>
<221> MOD_RES
<222> (8)
<223> T or S

<400> 11
Ala Asn Ile Xaa Ala Asn Ile Xaa Ala Asn Ile
 1               5               10

<210> 12
<211> 14
<212> PRT
<213> Artificial Sequence

<220>
<223> Description of Artificial Sequence: Synthetic
      peptide

<220>
<221> MOD_RES
<222> (4)
<223> T or S

<220>

```

<221> MOD_RES
 <222> (9)
 <223> T or S

 <220>
 <221> MOD_RES
 <222> (14)
 <223> T or S

 <400> 12
 Ala Asn Ile Xaa Gly Ser Asn Ile Xaa Gly Ser Asn Ile Xaa
 1 5 10

 <210> 13
 <211> 13
 <212> PRT
 <213> Artificial Sequence

 <220>
 <223> Description of Artificial Sequence: Synthetic
 peptide

 <220>
 <221> MOD_RES
 <222> (5)
 <223> T or S

 <220>
 <221> MOD_RES
 <222> (9)
 <223> T or S

 <220>
 <221> MOD_RES
 <222> (13)
 <223> T or S

 <400> 13
 Ala Ser Asn Ser Xaa Asn Asn Gly Xaa Leu Asn Ala Xaa
 1 5 10

 <210> 14
 <211> 10
 <212> PRT
 <213> Artificial Sequence

 <220>
 <223> Description of Artificial Sequence: Synthetic
 peptide

 <220>
 <221> MOD_RES
 <222> (4)
 <223> T or S

```

<220>
<221> MOD_RES
<222> (7)
<223> T or S

<220>
<221> MOD_RES
<222> (10)
<223> T or S

<400> 14
Ala Asn His Xaa Asn Glu Xaa Asn Ala Xaa
 1             5             10

<210> 15
<211> 7
<212> PRT
<213> Artificial Sequence

<220>
<223> Description of Artificial Sequence: Synthetic
      peptide

<220>
<221> MOD_RES
<222> (7)
<223> T or S

<400> 15
Gly Ser Pro Ile Asn Ala Xaa
 1             5

<210> 16
<211> 13
<212> PRT
<213> Artificial Sequence

<220>
<223> Description of Artificial Sequence: Synthetic
      peptide

<220>
<221> MOD_RES
<222> (7)
<223> T or S

<220>
<221> MOD_RES
<222> (13)
<223> T or S

<400> 16
Ala Ser Pro Ile Asn Ala Xaa Ser Pro Ile Asn Ala Xaa
 1             5             10

```

<210> 17
<211> 10
<212> PRT
<213> Artificial Sequence

<220>
<223> Description of Artificial Sequence: Synthetic
peptide

<220>
<221> MOD_RES
<222> (4)
<223> T or S

<220>
<221> MOD_RES
<222> (7)
<223> T or S

<220>
<221> MOD_RES
<222> (10)
<223> T or S

<400> 17
Ala Asn Asn Xaa Asn Tyr Xaa Asn Trp Xaa
1 5 10

<210> 18
<211> 13
<212> PRT
<213> Artificial Sequence

<220>
<223> Description of Artificial Sequence: Synthetic
peptide

<220>
<221> MOD_RES
<222> (5)
<223> T or S

<220>
<221> MOD_RES
<222> (9)
<223> T or S

<220>
<221> MOD_RES
<222> (12)
<223> T or S

<400> 18
Ala Thr Asn Ile Xaa Leu Asn Tyr Xaa Ala Asn Xaa Thr
1 5 10

```

<210> 19
<211> 13
<212> PRT
<213> Artificial Sequence

<220>
<223> Description of Artificial Sequence: Synthetic
      peptide

<220>
<221> MOD_RES
<222> (5)
<223> T or S

<220>
<221> MOD_RES
<222> (9)
<223> T or S

<220>
<221> MOD_RES
<222> (13)
<223> T or S

<400> 19
Ala Ala Asn Ser Xaa Gly Asn Ile Xaa Ile Asn Gly Xaa
 1             5             10

<210> 20
<211> 13
<212> PRT
<213> Artificial Sequence

<220>
<223> Description of Artificial Sequence: Synthetic
      peptide

<220>
<221> MOD_RES
<222> (5)
<223> T or S

<220>
<221> MOD_RES
<222> (9)
<223> T or S

<220>
<221> MOD_RES
<222> (13)
<223> T or S

<400> 20
Ala Val Asn Trp Xaa Ser Asn Asp Xaa Ser Asn Ser Xaa

```

<210> 21
<211> 13
<212> PRT
<213> Artificial Sequence

<220>
<223> Description of Artificial Sequence: Synthetic
peptide

<220>
<221> MOD_RES
<222> (5)
<223> T or S

<220>
<221> MOD_RES
<222> (9)
<223> T or S

<220>
<221> MOD_RES
<222> (13)
<223> T or S

<400> 21
Ala Val Asn Trp Xaa Ser Asn Asp Xaa Ser Asn Ser Xaa
1 5 10

<210> 22
<211> 10
<212> PRT
<213> Artificial Sequence

<220>
<223> Description of Artificial Sequence: Synthetic
peptide

<220>
<221> MOD_RES
<222> (4)
<223> T or S

<220>
<221> MOD_RES
<222> (7)
<223> T or S

<220>
<221> MOD_RES
<222> (10)
<223> T or S

<400> 22

Ala Asn Asn Xaa Asn Tyr Xaa Asn Ser Xaa
1 5 10

<210> 23
<211> 10
<212> PRT
<213> Artificial Sequence

<220>
<223> Description of Artificial Sequence: Synthetic
peptide

<400> 23
Ala Asn Asn Thr Asn Tyr Thr Asn Trp Thr
1 5 10

<210> 24
<211> 15
<212> PRT
<213> Artificial Sequence

<220>
<223> Description of Artificial Sequence: Linker

<400> 24
Gly Gly Gly Gly Ser Gly Gly Gly Gly Ser Gly Gly Gly Gly Ser
1 5 10 15

<210> 25
<211> 35
<212> DNA
<213> Artificial Sequence

<220>
<223> Description of Artificial Sequence: Primer

<400> 25
cgcagatctg atggctggca gcctcacagg attgc 35

<210> 26
<211> 37
<212> DNA
<213> Artificial Sequence

<220>
<223> Description of Artificial Sequence: Primer

<400> 26
ccggaattcc catcactggc gacgccacag gtaggtg 37

<210> 27
<211> 35

<212> DNA
 <213> Artificial Sequence

 <220>
 <223> Description of Artificial Sequence: Primer

 <400> 27
 acgcgagctc gcccttgcat ccctaaaagc ttctgg 35

 <210> 28
 <211> 54
 <212> DNA
 <213> Artificial Sequence

 <220>
 <223> Description of Artificial Sequence: Primer

 <400> 28
 gcgttgacgg cagtcagagt tgacagaagg gccagccagc aaaggatagt catg 54

 <210> 29
 <211> 62
 <212> DNA
 <213> Artificial Sequence

 <220>
 <223> Description of Artificial Sequence: Primer

 <400> 29
 ctagcatgac tatcctttgc tggctggccc ttctgtcaac tctgactgcc gtcaacgcag 60
 ct 62

 <210> 30
 <211> 48
 <212> DNA
 <213> Artificial Sequence

 <220>
 <223> Description of Artificial Sequence: Primer

 <400> 30
 cctgctactg ctcccagcag cagtgaaga gtccaaagtg gcagcatg 48

 <210> 31
 <211> 56
 <212> DNA
 <213> Artificial Sequence

 <220>
 <223> Description of Artificial Sequence: Primer

 <400> 31
 ctagcatgct gccactttgg actctttcac tgctgctggg agcagtagca ggagct 56

<210> 32
<211> 21
<212> DNA
<213> Artificial Sequence

<220>
<223> Description of Artificial Sequence: Primer

<400> 32
cagctggcca tgggtaccg g

21

<210> 33
<211> 4
<212> PRT
<213> Artificial Sequence

<220>
<223> Description of Artificial Sequence: N-terminal
peptide addition

<400> 33
Ala Asn Ile Thr
1

<210> 34
<211> 7
<212> PRT
<213> Artificial Sequence

<220>
<223> Description of Artificial Sequence: N-terminal
peptide addition

<400> 34
Ala Ser Pro Ile Asn Ala Thr
1 5

<210> 35
<211> 48
<212> DNA
<213> Artificial Sequence

<220>
<223> Description of Artificial Sequence: Primer

<400> 35
tgggcatcag gtgccaacat tacagccgc ccctgcatcc ctaaaagc

48

<210> 36
<211> 24
<212> DNA

<213> Artificial Sequence

<220>

<223> Description of Artificial Sequence: Primer

<400> 36

tttactgttt tcgtaacagt ttg

24

<210> 37

<211> 48

<212> DNA

<213> Artificial Sequence

<220>

<223> Description of Artificial Sequence: Primer

<400> 37

gcaggggagg gctgtaatgt tggcacctga tgccacgac actgcctg

48

<210> 38

<211> 13

<212> PRT

<213> Artificial Sequence

<220>

<223> Description of Artificial Sequence: Synthetic peptide

<220>

<221> MOD_RES

<222> (1)..(13)

<223> "Xaa" represents a variable amino acid

<400> 38

Ala Xaa Asn Xaa Thr Xaa Asn Xaa Thr Xaa Asn Xaa Thr
1 5 10

<210> 39

<211> 10

<212> PRT

<213> Artificial Sequence

<220>

<223> Description of Artificial Sequence: Synthetic peptide

<220>

<221> MOD_RES

<222> (1)..(10)

<223> "Xaa" represents a variable amino acid

<400> 39

Ala Asn Xaa Thr Asn Xaa Thr Asn Xaa Thr
1 5 10

```

<210> 40
<211> 81
<212> DNA
<213> Artificial Sequence

<220>
<221> modified_base
<222> (1)..(81)
<223> "n" represents a, t, c, g, other or unknown

<220>
<223> Description of Artificial Sequence: Primer

<400> 40
gtgtcgtggg catcaggtgc cnnsaaydns achdnsaayd nsachdnsaa ydnsachgcc 60
cgcccctgca tcctaaaaa g c 81

<210> 41
<211> 27
<212> DNA
<213> Artificial Sequence

<220>
<223> Description of Artificial Sequence: Primer

<400> 41
ggcacctgat gccacgaca ctgcctg 27

<210> 42
<211> 68
<212> DNA
<213> Artificial Sequence

<220>
<223> Description of Artificial Sequence: Primer

<220>
<221> modified_base
<222> (1)..(68)
<223> "nnn" is a mixture of trinucleotide codons for all
      natural amino acid residues, except proline

<400> 42
cgtgggcatc aggtgccaac nnnachaayn nnachaaynn nachgcccgc cctgcaccc 60
ctaaaagc 68

<210> 43
<211> 30
<212> DNA
<213> Artificial Sequence

```

<220>
<223> Description of Artificial Sequence: Primer

<400> 43
gttggcacct gatgccacg acactgcctg

30

<210> 44
<211> 13
<212> PRT
<213> Artificial Sequence

<220>
<223> Description of Artificial Sequence: Synthetic
peptide

<220>
<221> MOD_RES
<222> (4)
<223> variable amino acid

<220>
<221> MOD_RES
<222> (12)
<223> F or L

<400> 44
Ala Phe Asn Xaa Thr Leu Asn Lys Thr Trp Asn Xaa Thr
1 5 10

<210> 45
<211> 13
<212> PRT
<213> Artificial Sequence

<220>
<223> Description of Artificial Sequence: Synthetic
peptide

<400> 45
Thr Met Asn Asn Thr Trp Asn Trp Thr Trp Asn Trp Thr
1 5 10

<210> 46
<211> 13
<212> PRT
<213> Artificial Sequence

<220>
<223> Description of Artificial Sequence: Synthetic
peptide

<400> 46
Ala Leu Asn Ser Thr Gly Asn Leu Thr Val Asp Gly Thr
1 5 10

<210> 47
<211> 13
<212> PRT
<213> Artificial Sequence

<220>
<223> Description of Artificial Sequence: Synthetic
peptide

<400> 47
Ala Ser Asn Ser Thr Phe Asn Leu Thr Glu Asn Leu Thr
1 5 10

<210> 48
<211> 12
<212> PRT
<213> Artificial Sequence

<220>
<223> Description of Artificial Sequence: Synthetic
peptide

<400> 48
Thr Arg Asn Val Thr Ile Asn Cys Thr Asn Ser Thr
1 5 10

<210> 49
<211> 13
<212> PRT
<213> Artificial Sequence

<220>
<223> Description of Artificial Sequence: Synthetic
peptide

<400> 49
Ala Leu Asn Trp Thr Tyr Asn Gly Thr Lys Asn Val Thr
1 5 10

<210> 50
<211> 13
<212> PRT
<213> Artificial Sequence

<220>
<223> Description of Artificial Sequence: Synthetic
peptide

<400> 50
Ala Ala Asn Trp Thr Val Asn Phe Thr Gly Asn Phe Thr
1 5 10

```

<210> 51
<211> 12
<212> PRT
<213> Artificial Sequence

<220>
<223> Description of Artificial Sequence: Synthetic
      peptide

<220>
<221> MOD_RES
<222> (2)
<223> variable amino acid

<220>
<221> MOD_RES
<222> (4)
<223> variable amino acid

<400> 51
Ala Xaa Asn Xaa Thr Val Asn Ser Thr Asn Val Thr
 1              5              10

<210> 52
<211> 13
<212> PRT
<213> Artificial Sequence

<220>
<223> Description of Artificial Sequence: Synthetic
      peptide

<400> 52
Ala Asn Asn Phe Thr Phe Asn Gly Thr Leu Asn Leu Thr
 1              5              10

<210> 53
<211> 13
<212> PRT
<213> Artificial Sequence

<220>
<223> Description of Artificial Sequence: Synthetic
      peptide

<400> 53
Ala Gly Asn Trp Thr Ala Asn Val Thr Val Asn Val Thr
 1              5              10

<210> 54
<211> 13
<212> PRT
<213> Artificial Sequence

```

<220>
<223> Description of Artificial Sequence: Synthetic
peptide

<400> 54
Ala Gly Asn Ser Thr Ser Asn Val Thr Gly Asn Trp Thr
1 5 10

<210> 55
<211> 13
<212> PRT
<213> Artificial Sequence

<220>
<223> Description of Artificial Sequence: Synthetic
peptide

<400> 55
Ala Val Asn Ser Thr Met Asn Ile His Ala Ile Pro Pro
1 5 10

<210> 56
<211> 13
<212> PRT
<213> Artificial Sequence

<220>
<223> Description of Artificial Sequence: Synthetic
peptide

<400> 56
Ala Gly Asn Gly Thr Val Asn Gly Thr Ile Asn Gly Thr
1 5 10

<210> 57
<211> 13
<212> PRT
<213> Artificial Sequence

<220>
<223> Description of Artificial Sequence: Synthetic
peptide

<220>
<221> MOD_RES
<222> (8)
<223> variable amino acid

<400> 57
Ala Val Asn Ser Thr Gly Asn Xaa Thr Gly Asn Trp Thr
1 5 10

<210> 58
 <211> 12
 <212> PRT
 <213> Artificial Sequence

 <220>
 <223> Description of Artificial Sequence: Synthetic
 peptide

 <400> 58
 Ala Gly Asn Gly Thr Asn Gly Thr Ser Asn Leu Thr
 1 5 10

 <210> 59
 <211> 13
 <212> PRT
 <213> Artificial Sequence

 <220>
 <223> Description of Artificial Sequence: Synthetic
 peptide

 <400> 59
 Ala Met Asn Ser Thr Lys Asn Ser Thr Leu Asn Ile Thr
 1 5 10

 <210> 60
 <211> 10
 <212> PRT
 <213> Artificial Sequence

 <220>
 <223> Description of Artificial Sequence: Synthetic
 peptide

 <400> 60
 Ala Phe Asn Tyr Thr Ser Lys Asn Ser Thr
 1 5 10

 <210> 61
 <211> 13
 <212> PRT
 <213> Artificial Sequence

 <220>
 <223> Description of Artificial Sequence: Synthetic
 peptide

 <400> 61
 Ala Val Asn Ala Thr Met Asn Trp Thr Ala Asn Gly Thr
 1 5 10

 <210> 62

<211> 13
<212> PRT
<213> Artificial Sequence

<220>
<223> Description of Artificial Sequence: Synthetic
peptide

<400> 62
Ala Ser Asn Ser Thr Asn Asn Gly Thr Leu Asn Ala Thr
1 5 10

<210> 63
<211> 13
<212> PRT
<213> Artificial Sequence

<220>
<223> Description of Artificial Sequence: Synthetic
peptide

<400> 63
Ala Arg Asn Lys Thr Lys Asn Phe Thr Ile Asn Leu Thr
1 5 10

<210> 64
<211> 12
<212> PRT
<213> Artificial Sequence

<220>
<223> Description of Artificial Sequence: Synthetic
peptide

<400> 64
Ala Pro Asn Ile Thr Asn Asp Thr Val Asn Met Thr
1 5 10

<210> 65
<211> 13
<212> PRT
<213> Artificial Sequence

<220>
<223> Description of Artificial Sequence: Synthetic
peptide

<400> 65
Ala Gln Asn Lys Thr Phe Asn Phe Thr Met Asn Cys Thr
1 5 10

<210> 66
<211> 13

<212> PRT
 <213> Artificial Sequence

 <220>
 <223> Description of Artificial Sequence: Synthetic peptide

 <400> 66
 Ala Leu Asn Val Thr Trp Asn Cys Thr Leu Asn Leu Thr
 1 5 10

 <210> 67
 <211> 10
 <212> PRT
 <213> Artificial Sequence

 <220>
 <223> Description of Artificial Sequence: Synthetic peptide

 <400> 67
 Ala Leu Asn Thr Thr Trp Thr Asn Leu Thr
 1 5 10

 <210> 68
 <211> 10
 <212> PRT
 <213> Artificial Sequence

 <220>
 <223> Description of Artificial Sequence: Synthetic peptide

 <400> 68
 Ala Asn Thr Thr Asn Phe Thr Asn Glu Thr
 1 5 10

 <210> 69
 <211> 10
 <212> PRT
 <213> Artificial Sequence

 <220>
 <223> Description of Artificial Sequence: Synthetic peptide

 <400> 69
 Ala Asn Trp Thr Asn Arg Thr Asn Cys Thr
 1 5 10

 <210> 70
 <211> 10
 <212> PRT

<213> Artificial Sequence

<220>

<223> Description of Artificial Sequence: Synthetic peptide

<400> 70

Ala	Asn	Trp	Thr	Asn	Phe	Thr	Asn	Trp	Thr
1				5					10

<210> 71

<211> 10

<212> PRT

<213> Artificial Sequence

<220>

<223> Description of Artificial Sequence: Synthetic peptide

<400> 71

Pro	Thr	Gly	Leu	Ile	Gly	Thr	Asn	Phe	Thr
1				5					10

<210> 72

<211> 10

<212> PRT

<213> Artificial Sequence

<220>

<223> Description of Artificial Sequence: Synthetic peptide

<400> 72

Ala	Asn	Trp	Thr	Asn	Lys	Thr	Asn	Phe	Thr
1				5					10

<210> 73

<211> 10

<212> PRT

<213> Artificial Sequence

<220>

<223> Description of Artificial Sequence: Synthetic peptide

<400> 73

Ala	Asn	Asn	Thr	Asn	Leu	Thr	Asn	Ala	Thr
1				5					10

<210> 74

<211> 10

<212> PRT

<213> Artificial Sequence

<220>
<223> Description of Artificial Sequence: Synthetic
peptide

<400> 74
Ala Asn Tyr Thr Asn Trp Thr Asn Phe Thr
1 5 10

<210> 75
<211> 10
<212> PRT
<213> Artificial Sequence

<220>
<223> Description of Artificial Sequence: Synthetic
peptide

<400> 75
Ala Asn Thr Thr Asn Gln Thr Asn Asp Thr
1 5 10

<210> 76
<211> 10
<212> PRT
<213> Artificial Sequence

<220>
<223> Description of Artificial Sequence: Synthetic
peptide

<400> 76
Ala Asn Arg Thr Asn Trp Thr Asn Thr Thr
1 5 10

<210> 77
<211> 10
<212> PRT
<213> Artificial Sequence

<220>
<223> Description of Artificial Sequence: Synthetic
peptide

<400> 77
Pro Thr Ala Thr Asn His Thr Asn Ser Thr
1 5 10

<210> 78
<211> 10
<212> PRT
<213> Artificial Sequence

<220>
<223> Description of Artificial Sequence: Synthetic
peptide

<400> 78
Ala Asn Trp Thr Asn Gln Thr Asn Gln Thr
1 5 10

<210> 79
<211> 10
<212> PRT
<213> Artificial Sequence

<220>
<223> Description of Artificial Sequence: Synthetic
peptide

<400> 79
Ala Asn Trp Thr Asn Trp Thr Asn Ala Thr
1 5 10

<210> 80
<211> 10
<212> PRT
<213> Artificial Sequence

<220>
<223> Description of Artificial Sequence: Synthetic
peptide

<400> 80
Ala Asn Phe Thr Asn Lys Thr Asn Met Thr
1 5 10

<210> 81
<211> 10
<212> PRT
<213> Artificial Sequence

<220>
<223> Description of Artificial Sequence: Synthetic
peptide

<400> 81
Ala Asn His Thr Asn Glu Thr Asn Ala Thr
1 5 10

<210> 82
<211> 10
<212> PRT
<213> Artificial Sequence

<220>

<223> Description of Artificial Sequence: Synthetic peptide

<220>

<221> MOD_RES

<222> (3)

<223> C or W

<400> 82

Ala Asn Xaa Thr Asn Phe Thr Asn Glu Thr
1 5 10

<210> 83

<211> 9

<212> PRT

<213> Artificial Sequence

<220>

<223> Description of Artificial Sequence: Synthetic peptide

<400> 83

Ala Asn Leu Asp Lys Leu His Lys His
1 5

<210> 84

<211> 11

<212> PRT

<213> Artificial Sequence

<220>

<223> Description of Artificial Sequence: Synthetic peptide

<400> 84

Ala Asn Cys Phe Thr Asn Gln Thr Asn Phe Thr
1 5 10

<210> 85

<211> 11

<212> PRT

<213> Artificial Sequence

<220>

<223> Description of Artificial Sequence: Synthetic peptide

<400> 85

Ala Asn Trp Thr Asn Trp Thr Asn Glu Trp Thr
1 5 10

<210> 86

<211> 10

<212> PRT
 <213> Artificial Sequence

 <220>
 <223> Description of Artificial Sequence: Synthetic
 peptide

 <400> 86
 Ala Asn Cys Thr Asn Trp Thr Asn Cys Thr
 1 5 10

 <210> 87
 <211> 10
 <212> PRT
 <213> Artificial Sequence

 <220>
 <223> Description of Artificial Sequence: Synthetic
 peptide

 <400> 87
 Cys His Pro Tyr Asn Trp Thr Asn Trp Thr
 1 5 10

 <210> 88
 <211> 10
 <212> PRT
 <213> Artificial Sequence

 <220>
 <223> Description of Artificial Sequence: Synthetic
 peptide

 <400> 88
 Ala Asn Glu Thr Asn Tyr Thr Asn Glu Thr
 1 5 10

 <210> 89
 <211> 7
 <212> PRT
 <213> Artificial Sequence

 <220>
 <223> Description of Artificial Sequence: Synthetic
 peptide

 <400> 89
 Ala Asn Trp Thr Asn Trp Thr
 1 5

 <210> 90
 <211> 10
 <212> PRT

<213> Artificial Sequence

<220>

<223> Description of Artificial Sequence: Synthetic peptide

<400> 90

Ala	Lys	Pro	Tyr	Lys	Ser	Tyr	Lys	Phe	Tyr
1				5					10

<210> 91

<211> 10

<212> PRT

<213> Artificial Sequence

<220>

<223> Description of Artificial Sequence: Synthetic peptide

<400> 91

Ala	Asn	Ile	Thr	Asn	Lys	Thr	Asn	Trp	Thr
1				5					10

<210> 92

<211> 10

<212> PRT

<213> Artificial Sequence

<220>

<223> Description of Artificial Sequence: Synthetic peptide

<400> 92

Ala	Asn	Trp	Thr	Asn	Met	Thr	Asn	Ile	Thr
1				5					10

<210> 93

<211> 10

<212> PRT

<213> Artificial Sequence

<220>

<223> Description of Artificial Sequence: Synthetic peptide

<400> 93

Ala	Asn	Asn	Thr	Asn	Arg	Thr	Asn	Phe	Thr
1				5					10

<210> 94

<211> 10

<212> PRT

<213> Artificial Sequence

<220>
<223> Description of Artificial Sequence: Synthetic
peptide

<400> 94
Ala Asn Trp Thr Asn Trp Thr Asn Trp Thr
1 5 10

<210> 95
<211> 11
<212> PRT
<213> Artificial Sequence

<220>
<223> Description of Artificial Sequence: Synthetic
peptide

<400> 95
Ala Asn Trp Arg Thr Asn His Thr Asn Lys Thr
1 5 10

<210> 96
<211> 10
<212> PRT
<213> Artificial Sequence

<220>
<223> Description of Artificial Sequence: Synthetic
peptide

<400> 96
Ala Asn Gln Thr Asn Ile Thr Asn Trp Thr
1 5 10

<210> 97
<211> 11
<212> PRT
<213> Artificial Sequence

<220>
<223> Description of Artificial Sequence: Synthetic
peptide

<400> 97
Ala Asn Phe Thr Asn Val Ala Thr Asn Gln Thr
1 5 10

<210> 98
<211> 10
<212> PRT
<213> Artificial Sequence

<220>
<223> Description of Artificial Sequence: Synthetic peptide

<220>
<221> MOD_RES
<222> (1)
<223> most probable amino acid

<220>
<221> MOD_RES
<222> (2)
<223> most probable amino acid

<220>
<221> MOD_RES
<222> (5)
<223> variable amino acid

<220>
<221> MOD_RES
<222> (9)
<223> most probable amino acid

<400> 98
Ala Asn Thr Thr Xaa Leu Thr Asn Lys Thr
1 5 10

<210> 99
<211> 10
<212> PRT
<213> Artificial Sequence

<220>
<223> Description of Artificial Sequence: Synthetic peptide

<220>
<221> MOD_RES
<222> (6)
<223> S or C

<400> 99
Ala Asn Lys Thr Asn Xaa Thr Asn Ile Thr
1 5 10

<210> 100
<211> 10
<212> PRT
<213> Artificial Sequence

<220>
<223> Description of Artificial Sequence: Synthetic peptide

```

<220>
<221> MOD_RES
<222> (9)
<223> most probable amino acid

<400> 100
Ala Asn Trp Thr Asn Cys Thr Asn Ile Thr
 1             5             10

<210> 101
<211> 10
<212> PRT
<213> Artificial Sequence

<220>
<223> Description of Artificial Sequence: Synthetic
      peptide

<220>
<221> MOD_RES
<222> (6)
<223> F or L

<400> 101
Ala Asn Trp Thr Asn Xaa Thr Asn Trp Thr
 1             5             10

<210> 102
<211> 10
<212> PRT
<213> Artificial Sequence

<220>
<223> Description of Artificial Sequence: Synthetic
      peptide

<400> 102
Cys Gln Leu Asp Arg Ser Thr Asn Glu Thr
 1             5             10

<210> 103
<211> 10
<212> PRT
<213> Artificial Sequence

<220>
<223> Description of Artificial Sequence: Synthetic
      peptide

<400> 103
Ala Asn Asn Thr Asn Tyr Thr Asn Trp Thr
 1             5             10

```

<210> 104
<211> 10
<212> PRT
<213> Artificial Sequence

<220>
<223> Description of Artificial Sequence: Synthetic
peptide

<400> 104
Ala Asn Asn Thr Asn Tyr Thr Asn Trp Thr
1 5 10

<210> 105
<211> 12
<212> PRT
<213> Artificial Sequence

<220>
<223> Description of Artificial Sequence: Synthetic
peptide

<400> 105
Ala Ala Asn Asp Thr Asn Trp Thr Val Asn Cys Thr
1 5 10

<210> 106
<211> 13
<212> PRT
<213> Artificial Sequence

<220>
<223> Description of Artificial Sequence: Synthetic
peptide

<400> 106
Ala Thr Asn Ile Thr Leu Asn Tyr Thr Ala Asn Thr Thr
1 5 10

<210> 107
<211> 13
<212> PRT
<213> Artificial Sequence

<220>
<223> Description of Artificial Sequence: Synthetic
peptide

<400> 107
Ala Ala Asn Ser Thr Gly Asn Ile Thr Ile Asn Gly Thr
1 5 10

<210> 108

<211> 13
<212> PRT
<213> Artificial Sequence

<220>
<223> Description of Artificial Sequence: Synthetic
peptide

<400> 108
Ala Val Asn Trp Thr Ser Asn Asp Thr Ser Asn Ser Thr
1 5 10

<210> 109
<211> 13
<212> PRT
<213> Artificial Sequence

<220>
<223> Description of Artificial Sequence: Synthetic
peptide

<400> 109
Ala Ser Pro Ile Asn Ala Thr Ser Pro Ile Asn Ala Thr
1 5 10

<210> 110
<211> 4
<212> PRT
<213> Artificial Sequence

<220>
<223> Description of Artificial Sequence: Linker

<400> 110
Gly Gly Gly Gly
1

<210> 111
<211> 4
<212> PRT
<213> Artificial Sequence

<220>
<223> Description of Artificial Sequence: Linker

<400> 111
Gly Asn Ala Thr

<210> 112
<211> 8
<212> PRT
<213> Artificial Sequence

```

<220>
<223> Description of Artificial Sequence: Synthetic
      peptide

<400> 112
Asn Ser Thr Gln Asn Ala Thr Ala
 1             5

<210> 113
<211> 14
<212> PRT
<213> Artificial Sequence

<220>
<223> Description of Artificial Sequence: Synthetic
      peptide

<400> 113
Ala Asn Leu Thr Val Arg Asn Leu Thr Arg Asn Val Thr Val
 1             5             10

<210> 114
<211> 9
<212> PRT
<213> Artificial Sequence

<220>
<223> Synthetic peptide

<221> MOD_RES
<222> (4)
<223> T or S

<221> MOD_RES
<222> (8)
<223> T or S

<400> 114
Phe Asn Ile Xaa Val Asn Ile Xaa Val
 1             5

<210> 115
<211> 9
<212> PRT
<213> Artificial Sequence

<220>
<223> Synthetic peptide

<221> MOD_RES
<222> (4)
<223> T or S

<221> MOD_RES
<222> (8)
<223> T or S

```

```

<400> 115
Tyr Asn Ile Xaa Val Asn Ile Xaa Val
1           5

<210> 116
<211> 10
<212> PRT
<213> Artificial Sequence

<220>
<223> Synthetic peptide

<221> MOD_RES
<222> (5)
<223> T or S

<221> MOD_RES
<222> (9)
<223> T or S

<400> 116
Ala Phe Asn Ile Xaa Val Asn Ile Xaa Val
1           5           10

<210> 117
<211> 10
<212> PRT
<213> Artificial Sequence

<220>
<223> Synthetic peptide

<221> MOD_RES
<222> (5)
<223> T or S

<221> MOD_RES
<222> (9)
<223> T or S

<400> 117
Ala Tyr Asn Ile Xaa Val Asn Ile Xaa Val
1           5           10

<210> 118
<211> 10
<212> PRT
<213> Artificial Sequence

<220>
<223> Synthetic peptide

<221> MOD_RES

```



```

<222> (5)
<223> T or S

<221> MOD_RES
<222> (9)
<223> T or S

<400> 118
Ala Pro Asn Asp Xaa Val Asn Ile Xaa Val
 1             5             10

<210> 119
<211> 9
<212> PRT
<213> Artificial Sequence

<220>
<223> Synthetic peptide

<221> MOD_RES
<222> (4)
<223> T or S

<221> MOD_RES
<222> (8)
<223> T or S

<400> 119
Ala Asn Ile Xaa Val Asn Ile Xaa Val
 1             5

<210> 120
<211> 7
<212> PRT
<213> Artificial Sequence

<220>
<223> Synthetic peptide

<221> MOD_RES
<222> (3)
<223> T or S

<221> MOD_RES
<222> (7)
<223> T or S

<400> 120
Asn Asp Xaa Val Asn Phe Xaa
 1             5

<210> 121

```

<211> 8
<212> PRT
<213> Artificial Sequence

<220>
<223> Synthetic peptide

<221> MOD_RES
<222> (3)
<223> T or S

<221> MOD_RES
<222> (7)
<223> T or S

<400> 121
Asn Ile Xaa Val Asn Ile Xaa Val
1 5

<210> 122
<211> 12
<212> PRT
<213> Artificial Sequence

<220>
<223> Synthetic peptide

<400> 122
Ala Pro Asn Asp Thr Val Asn Phe Thr Gln Asp Cys
1 5 10

<210> 123
<211> 13
<212> PRT
<213> Artificial Sequence

<220>
<223> Synthetic peptide

<400> 123
Asn Ser Asn Ile Thr Val Asn Ile Thr Val Cys Glu Leu
1 5 10